

Confirmation no.6481

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	LANKHORST <i>et al.</i>	Examiner:	Lee, E.
Serial No.:	10/539,251	Group Art Unit:	2815
Filed:	June 15, 2005	Docket No.:	NL030259US1 (NXPS.443PA)
Title:	ELECTRIC DEVICE COMPRISING PHASE CHANGE MATERIAL		

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**REPLY BRIEF**

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Commissioner For Patents  
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Customer No. <b>65913</b>
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Dear Sir:

This Reply Appeal Brief is submitted pursuant to 37 C.F.R. §41.41, in response to the Examiner's Answer dated August 19, 2009.

Please charge/credit Deposit Account **50-4019** (NL030259US1) any additional fees/overages necessary in support of this filing.

**I. Status of Claims**

Claims 1-11 and 17-22 stand rejected and are presented for appeal. Claims 12-16 are cancelled.

**II. Grounds of Rejection to be Reviewed Upon Appeal**

The grounds of rejection to be reviewed on appeal are as follows:

- A. Claims 1-7, 9-11 and 17-22 stand rejected under 35 U.S.C. §102(b) over Ovshinsky *et al.* (US Patent No. 5,912,839).
- B. Claim 8 stands rejected under 35 U.S.C. §103(a) over Ovshinsky.

**III. Appellant's Reply Argument**

The following argument supplements, rather than replaces, the arguments presented in the underlying Appeal Brief.

**A. The § 112(2) Rejections Have Been Withdrawn.**

Appellant understands that all outstanding Section 112(2) rejections have been withdrawn as indicated in the Examiner's Answer at page 6: "the 112 rejection is withdrawn and now [*sic*] longer part of the rejection."

**B. The § 102 and § 103 Rejections Are Improper Due To An Erroneous Assertion of Inherent Correspondence.**

As relevant to each of the remaining rejections, the Examiner relies upon a mistaken assumption that a particular ratio of materials necessarily possesses all of the claimed aspects. Specifically, the entirety of the rejections is based upon an erroneous assertion that claimed aspects are inherent to a device simply because it might have a particular mix of materials. To establish inherency, however, it must be shown that the claimed aspects are necessarily present. Appellant's specification, the teachings of the cited references and the Examiner's Response each show that this assumption is incorrect, and thus, the rejection is *prima facie* invalid.

As explained in detail in Appellant's specification, a variety of physical elements and parameters are relevant to achieving the claimed aspects, including those limitations directed

toward crystallization at an interface as opposed to nucleation (the extremely localized budding of a distinct thermodynamic phase) and/or toward fast growth. For instance, Table 4 (pg. 17) lists example Sb/Te ratios as a function of the physical dimensions of the device. Other aspects of Appellant's specification teach the import of controlling heating and cooling rates through selection of physical dimensions in conjunction with control of material-selection and ratios thereof (*see, e.g.*, pg. 6:17-34). The prior art references do not teach or suggest such aspects. Moreover, the record is undisputed that the prior art device is believed to function via a different, nucleation-based process (*see, e.g.*, Examiner's answer at page 7). As there is not a *prima facie* case for the rejections, Appellant is under no evidentiary burden to affirmatively disprove the existence of elements for which the Examiner cannot find correspondence and for which the Examiner is unable to show are inherently/necessarily present.

With specific regards to the rejections for obviousness, the Examiner improperly alleges that any of the claimed ranges would simply be a matter of "discovering an optimum value of a result effective variable." This logic is flawed because, except for claim 8, the rejection is based upon Section 102, which requires that each limitation be explicitly or implicitly present. Thus, irrespective of hypothetical modifications or optimizations, these aspects are not explicitly or implicitly taught by the '839 reference.

**C. The Rejection of Claim 8 Under 35 U.S.C. §103(a) Over the '839 Reference Is Improper For Relying Upon An Improper Conclusion.**

The Examiner's rejection relies upon the unsupported conclusion that experimentation with a result effective variable would render the claim limitations obvious. Neither the Examiner nor the cited references identify any result effective variable that would lead to the claimed values. "A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation." M.P.E.P. § 2144.05 citing to *In re Antonie*, 559 F.2d 618 (CCPA 1977). The Examiner has failed to identify what result the skilled artisan would seek to optimize that would lead to the claimed values. Appellant's specification is the only evidence in the record that teaches results shown to lead to the specifically claimed values; however, it is improper for the Examiner to use

Appellant's specification as a basis for the rejection. Accordingly, there is no evidence in the record that the skilled artisan would arrive at the claimed values and the rejections should be reversed.

Moreover, evidence of surprising or unexpected results is strong evidence that a claimed range is not obvious. Rejections can be overcome by showing "that there are new and unexpected results relative to the prior art." M.P.E.P. § 2144.05 citing to *Iron Grip Barbell Co., Inc. v. USA Sports, Inc.*, 392 F.3d 1317, 1322 (Fed. Cir. 2004). This is especially true where, as here, "the reference's disclosed range is so broad as to encompass a very large number of possible distinct compositions, this might present a situation analogous to the obviousness of a species when the prior art broadly discloses a genus." M.P.E.P. § 2144.05 citing to *In re Harris*, 409 F.3d 1339 (Fed. Cir. 2005). The record contains ample evidence of such results emanating from the surprising crystallization mechanism. There is no dispute that the surprising results are not taught or suggested in the cited references. As such, the evidence in the record is more than sufficient to establish that the claimed ranges are not obvious.

#### **IV. Conclusion**

For the aforementioned reasons, the Examiner's rejections are each improper as they represent an improper attempt to shift the evidentiary burden that includes an erroneous requirement that Appellant disprove the existence of elements for which the Examiner is unable to find correspondence. As should be apparent from the above discussion, it is illogical to require Appellant to provide extrinsic evidence that disproves the existence of elements that are not discussed, suggested or necessarily present. The burden does not shift until the elements are shown to be *prima facie* present. Without first presenting such a *prima facie* case, the Examiner's rejections cannot stand. Notwithstanding, the record includes ample evidence of lack of correspondence and of nonobviousness.

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In view of the above, Appellant submits that the rejections of claims 1-11 and 17-22 are improper and therefore requests reversal of the rejections as applied to the appealed claims and allowance of the entire application.

Authority to charge the undersigned's deposit account was provided on the first page of this brief.

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